

#### A. Accounts Which Should be Included in the Pole Attachment Calculation

The Electric Utilities have extensively analyzed the FERC accounts which may be relevant to pole costs and attachments and the costs booked in those accounts, as well as the benefits derived by attachers associated with the costs booked to these accounts. As a result of this analysis, the Electric Utilities have determined that the current formula does not permit recovery of a significant number of cost categories which benefit attachers. The Electric Utilities believe that this under-recovery rises to a level that indicates substantial subsidization of cable companies by the Electric Utilities which results in a confiscatory rate.

In order to bring the formula more into line with the actual costs that should be borne by attachers, the Electric Utilities recommend the inclusion of the accounts discussed below. The Electric Utilities believe that each utility should be permitted to use either the net or gross method, in its sole discretion. Accordingly, the following discussion is not an endorsement of either method, and such suggestion is inadvertent. We provide calculations of the equations on both the net and gross basis.

##### 1. Capital Accounts

The only capital account currently included in the Commission's formula is Account 364. The Commission noted in the NPRM, at 13 and n.55, that it believes all pole costs are captured in Account 364 and that amounts included in other accounts are captured in the formula. As noted below, however, substantial costs are included in accounts other than Account 364 and are, therefore, currently not charged to attachers. To the extent that individual utilities may book these or similar costs to other accounts, they should be permitted to include those costs in their formula as well. In accordance with our

recommendation that electric utilities calculate separate rates for 30' poles and poles over 30', the Electric Utilities should allocate each capital account to the pole size by the percentage occurrence of such poles in their system, according to their engineering on other records. At a minimum, however, the following accounts should be included for the reasons stated below.

a. FERC Account 364 (Poles, Towers and Fixtures)

(1) Description and Justification

Account 364 should continue to be included in the formula, as it contains the primary expense of raw pole costs. Electric utilities should be permitted to add other capital accounts, including pole equipment accounts, to the formula to the extent that their system of accounts differs from that discussed herein, or from the current pole attachment formula. Failure to permit the electric utilities to include these other accounts would result in an under-recovery of costs and would violate the pricing provisions of the statute.

(2) Calculation

Account 364, when calculated as part of a net basis calculation, should continue to be reduced by the relevant and associated depreciation reserve (DR) and accumulated deferred income tax (ADIT) accounts. Under both the net and the gross method, this account is reduced by fifteen percent (15%) to remove the costs associated with cross arms. The Electric Utilities believe that this adjustment continues to be appropriate. The resulting amount included for Account 364 would be as follows:

$$\text{Net 364} = (364 - \text{DR} - \text{ADIT}) \times 0.85$$

$$\text{Gross 364} = 364 \times 0.85$$

b. FERC Account 360 (Land and Land Rights)

(1) Description and Justification

Account 360 is used to record capitalized expenditures which are related to distribution land and easements. It contains the costs associated with the acquisition of land upon which poles and associated hardware are placed and over which attachments must be strung. It is axiomatic that these expenditures benefit all of the parties attaching to a pole. Without the distribution land and easement rights, the poles would not exist at all. The Electric Utilities propose including that portion of the account which contains expenditures solely related to distribution line, land and easement costs.

(2) Calculation

No depreciation factor should be applied to this account under any calculation methodology as land and land rights are not depreciated. The resulting amount included for Account 360 would be as follows:

$$\text{Net 360} = 360$$

$$\text{Gross 360} = 360$$

c. FERC Account 365 (Overhead Conductors and Devices)

(1) Description and Justification

Costs recorded in Account 365 include grounding installations and lightning arrestors which are not associated with transformers, and the costs of initial tree trimming doing pole installation which are capitalized and amortized over the life of the pole. All parties attached to a pole benefit from grounding installations, as they protect the attaching parties and their equipment from lightning surges, lightning strikes, stray interference, induced voltages and

power surges by draining off these currents and safely conducting them to the ground. These installations also provides a common ground reference for worker safety. Initial tree trimming is an essential first step to pole installation, and poles cannot be installed without this operation first being performed.

In addition, overhead line conductors provide the first line of defense against lightning strikes. There is a 60 degree "cone of protection" that all grounding and lightning protection pole lines provide by their very presence because they are first thing that lightning strikes. Once lightning strikes, the energy travels along the wires and discharges through lightning arrestors designed for that purpose. If these devises were not in place, then the lightning strike would find the closest ground or ground potential. Communications and CATV conductors and facilities would be damaged or destroyed.

The expenditures contained in this account which are directly related to grounding installations are not usually tracked separately, but the electric utilities have estimated, after an investigation of this account that approximately twelve percent (12%) is directly attributable to grounding installations and should be allocated to the pole investment equation. In addition, CP&L's records indicate that ten percent (10%) of this account is attributable to tree trimming. To be on the conservative side, the Electric Utilities propose adding an additional eight percent (8%) of this account to allow for initial tree trimming capitalized costs. The total allocation to pole cost, therefore, would be twenty percent (20%). To the extent that some companies may track these expenditures separately, such companies should be permitted to use the actual subaccount balance rather than the estimate set forth by the Electric Utilities.

(2) Calculation

Account 365 is related solely to distribution lines and their associated poles. The account balance, under the net methodology, should be reduced by its associated depreciation reserve and accumulated deferred income tax. Under either the net or gross method it should be reduced by eighty percent (80%) to render the allocated twenty percent (20%) to the account. The resulting amount included for Account 365 would be as follows:

$$\text{Net 365} = 365\text{-DR-ADIT} \times 0.20$$

$$\text{Gross 365} = 365 \times 0.20$$

d. FERC Account 368 (Line Transformers)

(1) Description and Justification

In addition to the actual transformers themselves, some expenditures for lightning arresters are also capitalized to this account. Lightning arrestors are charged to this account, and not Account 365, when they are associated with or attached to a transformer in addition to protecting the pole and the attachments. The reason for the separate booking of this cost is that the transformer is assigned a different retirement unit code, and lightning arrestors are assigned the retirement unit codes for transformers to which they are attached. Otherwise, the arrestors in this account are the same as those in Account 365, and they perform the same valuable function in both protecting of all attachments and providing a common ground for same. While many Electric Utilities may be able to identify the specific investment in lightning arresters, the Electric Utilities have determined, from investigating their own accounts, that approximately six percent (6%) of Account 368 is directly attributable to lightning arresters and should be allocated to the pole attachment rate calculation.

## (2) Calculation

The balance in this account should not be allocated over any accounts as it is associated only with line distribution accounts. Depreciation reserve and accumulated deferred income taxes should be deducted from this account for net calculation. Under either method the balance should be multiplied by six percent (6%) to reduce its value to that associated with lightning arrestors. The resulting amount included for Account 368 would be as follows:

$$\text{Net 368} = 368 - \text{DR} - \text{ADIT} \times 0.06$$

$$\text{Gross 368} = 368 \times 0.06$$

### e. Calculation; Net (Gross) Cost per Bare Pole

Total capital expenses would be divided by the number of poles, either thirty or over thirty, as applicable, as follows:

$$\text{NC/BP} = (360 + 364 + 365 + 368)$$

$$\text{GC/BP} = (360 + 364 + 365 + 368)$$

## 2. Operations and Maintenance Accounts

### a. FERC Account 580 (Operation Supervision and Engineering)

#### (1) Description and Justification

Expenditures which are incurred in support of all general maintenance activities, including pole maintenance, are booked to this account. This account would include supervision, inspection and testing related to the following:

- Special tests to determine the efficiency of equipment operation.
- Preparing and reviewing budgets, estimates and drawings relating to the operation or maintenance for department approval.
- Preparing instructions for operations and maintenance activities.

- Reviewing and analyzing operating results.
- Establishing organizational setup of departments and executing changes therein.
- Formulating and reviewing routines of departments and executing changes therein.
- General training and instruction of employees by supervisors whose pay is chargeable hereto. Specific instruction and training in a particular type of work is chargeable to the appropriate functional account.
- Secretarial work for supervisory personnel, but not general clerical and stenographic work chargeable to other accounts.
- Meals, traveling and incidental expenses associated with these activities.

These activities are performed with respect to all distribution plant, including poles and rights of way. As a result, these activities directly benefit all attachers, and this account should be included in any pole attachment rate calculation.

#### (2) Allocation<sup>57</sup>

As Account 580 contains expenses incurred with respect to all distribution plant, it should be allocated over all of the distribution plant accounts, Account numbers 360 through 373. For utilities using net account pricing for its pole attachment rate, the plant accounts should also be decreased by the associated depreciation reserve and accumulated deferred income tax accounts. The resulting account allocation formula would be as follows:

$$\text{Net 580A} = 580 / \text{Gross Distribution Plant Investment} - \text{DR} - \text{ADIT}$$

$$\text{Gross 580A} = 580 / \text{Gross Distribution Plant Investment}$$

#### b. FERC Account 583 (Overhead Line Expenses)

##### (1) Description and Justification

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57. Accounts which are allocated are indicated hereinafter by an "A" following the account, i.e., Account 580, allocated, would be indicated as "580A."

Account 583 includes labor, materials and other costs directly associated with overhead lines, but also with the grounding and lightning arrestor lines used with poles. As noted in the capital accounts section, grounding and lightning arrestor assets directly benefit all attachers by protecting the integrity of those circuits. These costs are incurred in support of all operational expenses of aerial lines.

(2) Allocation

As Account 583 contains expenses incurred only with respect to distribution plant, it should be allocated over only the distribution accounts, Account numbers 364, 365 and 369. For utilities using net account pricing for its pole attachment rate, the plant accounts should also be decreased by the associated depreciation reserve and accumulated deferred income tax accounts. The resulting account allocation formula would be as follows:

$$\text{Net 583A} = 583 / (364 + 365 + 369 - \text{DR} - \text{ADIT})$$

$$\text{Gross 583A} = 583 / 364 + 365 + 369$$

c. FERC Account 588 (Miscellaneous Distribution Expenses)

(1) Description and Justification

Account 588 contains the following costs which are incurred in support of all electric utility functions, including the operation of distribution, rights of way and poles:

Labor Costs

- General records of physical characteristics of lines and substations, such as capacities, etc.
- Ground resistance records.
- Joint use pole maps and records.
- Distribution system voltage and load records.
- Preparing maps and prints.
- Service interruption and trouble records.



- General clerical and stenographic work except that chargeable to account 586, Meter expenses.

#### Expenses

- Operating records covering poles, transformers, manholes, cables, and other distribution facilities. Exclude meter records chargeable to account 586 (Meter Expenses) and station records chargeable to account 582 (Station Expenses) and stores records chargeable to account 163 (Stores Expenses Undistributed).
- Janitor work at distribution office buildings including snow removal, cutting grass, etc.

#### Miscellaneous Materials and Expenses

- Communication service.
- Building service expenses.
- Miscellaneous office supplies and expenses, printing and stationery, maps and records and first aid supplies.
- Research, development, and demonstration expenses.

#### (2) Allocation

Account 588 should be allocated over all of the distribution plant accounts, Account numbers 360 through 373, as it benefits total distribution utility plant. For utilities using net account pricing for its pole attachment rate, the plant accounts should also be decreased by the associated depreciation reserve and accumulated deferred income tax accounts. The resulting account allocation formula would be as follows:

$$\text{Net 588A} = 588 / \text{Gross Distribution Plant Investment} - \text{DR} - \text{ADIT}$$

$$\text{Gross 588A} = 588 / \text{Gross Distribution Plant Investment}$$

- d. FERC Account 590 (Maintenance Supervision and Engineering)

#### (1) Description and Justification

Account 590 is used to record costs incurred in support of all general maintenance activities, including pole maintenance. Pole and distribution maintenance directly benefit all

attachers, and this account should be included in any pole attachment rate calculation.

Examples of costs booked to this account are the same as Account 580, except that they relate more closely to the actual field repairs and record-keeping than Account 580 costs.

## (2) Allocation

Account 590 should be allocated over all of the distribution plant accounts, Account numbers 360 through 373, as it benefits total distribution utility plant. For utilities using net account pricing for its pole attachment rate, the plant accounts should also be decreased by the associated depreciation reserve and accumulated deferred income tax accounts. The resulting account allocation formula would be as follows:

$$\text{Net 590A} = 590 / \text{Gross Distribution Plant Investment} - \text{DR} - \text{ADIT}$$

$$\text{Gross 590A} = 590 / \text{Gross Distribution Plant Investment}$$

### e. FERC Account 593 (Maintenance of Overhead Lines)

#### (1) Description and Justification

Account 593 is used to book costs incurred in support of all general maintenance activities for poles and overhead lines. Examples of costs booked to this account include work of the following character on poles, towers, and fixtures:

- Installing additional clamps or removing clamps or strain insulators on guys in place.
- Moving line or guy pole in relocation of pole or section of line.
- Painting poles, towers, crossarms, or pole extensions.
- Readjusting or changing position of guys or braces.
- Realigning and straightening poles, crossarms, braces, pins, racks, brackets, and other pole fixtures.
- Reconditioning reclaimed pole fixtures.
- Relocating crossarms, racks, brackets, and other pole fixtures.
- Repairing pole supported platform.
- Repairs by others to jointly owned poles.

- Shaving, cutting rot, or treating poles or crossarms in use or salvaged for reuse.
- Stubbing poles already in service.
- Continuance and maintenance trimming trees and clearing brush.

Many of these costs directly benefit poles and attachers by providing maintenance to the poles and extending their life and usefulness, and protecting especially the lower attachers from tree limbs and brush. As a result, this account should be included in any pole attachment rate calculation.

## (2) Allocation

Account 593 should be allocated only over electric plant Account numbers 364, 365 and 369 as it relates only to costs to support these capital accounts. For utilities using net account pricing for its pole attachment rate, the plant accounts should also be decreased by the associated depreciation reserve and accumulated deferred income tax accounts. The resulting account allocation formula would be as follows:

$$\text{Net 593A} = 593 / (364 + 365 + 369 - \text{DR} - \text{ADIT})$$

$$\text{Gross 593A} = 593 / 364 + 365 + 369$$

## f. FERC Account 598 (Miscellaneous Distribution Expenses)

### (1) Description and Justification

Account 598 is used to book expenditures incurred in support of all general maintenance activities, including pole and other maintenance, which is not generally assignable or not specifically assignable to a discrete account or function. These maintenance expenditures directly benefit all attachers, and this account should be included in any pole attachment rate calculation. Examples of activities booked to this account are as follows:

- Direct field supervision of maintenance.

- Inspecting, testing, and reporting the condition of plant specifically to determine the need for repairs, replacements, rearrangements, and changes and inspecting and testing the adequacy of repairs which have been made.
- Work performed specifically for the purpose of preventing failure, restoring serviceability or maintaining life of plant.
- Rearranging the location of plant not retired.
- Repairing for reuse materials recovered from plant.
- Testing for locating and clearing trouble.
- Net cost of installing, maintaining, and removing temporary facilities to prevent interruption of service.
- Replacing or adding minor items of plant which do not constitute a retirement unit.

## (2) Allocation

Account 598 should be allocated over total distribution plant, Accounts 360 through 373, as these costs are specifically incurred only in support of total distribution plant, including poles. For utilities using net account pricing for its pole attachment rate, the plant accounts should also be decreased by the associated depreciation reserve and accumulated deferred income tax accounts. The resulting account allocation formula would be as follows:

$$\text{Net 598A} = 598 / (\text{Gross Distribution Plant} - \text{DR} - \text{ADIT})$$

$$\text{Gross 598A} = 598 / \text{Gross Distribution Plant}$$

g. Total Operations and Maintenance Expense

The formula for these accounts would, for both net and gross methods and using the proper associated values from above, be as follows:

$$\text{A\&G} = 580\text{A} + 583\text{A} + 588\text{A} + 590\text{A} + 593\text{A} + 598\text{A}$$

## 3. Administrative and General Expense

As with the previous formula, the electric utility should be permitted to recover the proportionate share of all general and administrative expense. The Commission has

recognized that some part of all of these expenses directly or indirectly benefit poles and pole  
attachers. The formula presentation for these costs should remain as follows:

$$\text{Net A\&G} = \frac{\text{Accounts 920 through 935 (Total A\&G)}}{\text{Gross Electric Plant Investment - DR - ADIT}}$$

$$\text{Gross A\&G} = \frac{\text{Accounts 920 through 935 (Total A\&G)}}{\text{Gross Electric Plant Investment}}$$

#### 4. Depreciation Expense

Likewise, the electric utilities should continue to get the benefit of depreciation  
expense. As depreciation expense reflects the actual recovery of capital expenditures, it  
should be included under either gross or net formula calculations. The formula presentation  
for this cost recovery is as follows:

$$\begin{aligned}\text{Net DE} &= \frac{\text{Depreciation Rate for Poles} \times \text{Gross Pole Investment}}{\text{Net Pole Investment}} \\ \text{Gross DE} &= \text{Depreciation Rate} \times \text{Gross Pole Investment}\end{aligned}$$

#### 5. Taxes

The tax accounts which are currently included, and should continue to be included,  
are as follows:

- 408.1 (Taxes Other Than Income Taxes -- Utility Operating Income)
- 409.1 (Income Taxes -- Utility Operating Income)
- 410.1 (Provision for Deferred Income Taxes -- Utility Operating Income)
- 411.4 (Investment Tax Credit Adjustments)
- 411.1 (Provision for Deferred Income Taxes -- Credit -- Utility Operating  
Income)

The resulting formula is as follows:

$$\text{Net Tax} = \frac{408.1 + 409.1 + 410.1 + 411.4 + 411.1}{\text{Total Electric Plant - DR - ADIT}}$$

$$\text{Gross Tax} = \frac{408.1 + 409.1 + 410.1 + 411.4 + 411.1}{\text{Total Electric Plant}}$$

## 6. Cost of Capital

The cost of capital (CAP) should be the cost of capital set in the most recently filed state rate case applicable to the electric utility, including return on equity, for the state within which pole attachments are sought, adjusted for net or gross.

## 7. Gross Capital Investment

The use of either net or gross costs is entirely consistent with the statute which speaks only of "actual capital costs of the utility." *See* § 224(d)(1). It should make little difference whether net or gross costs are used by an electric utility as the formula is adjusted accordingly for each. In addition, under the current practice, this decision is left to the discretion of each utility depending upon its standard practice. The Electric Utilities propose leaving this decision to the electric utility.

## 8. Final Pole Attachment Formula

Based upon this discussion, the Electric Utilities recommend the formulation of two pole attachment rate formulas for use in "focusing" the negotiations between the parties to any pole attachment transaction. One rate would be for thirty foot poles, and the second would be for poles over thirty feet. The cable and telecommunications attachment formula for thirty foot and under poles would be as follows:

$$\text{Net} = 42.11\% \times (\text{NC/BP}) \times \text{Net O\&M} \times \text{Net A\&G} \times \text{Net DE} \times \text{Net Tax} \times \text{Net CAP}$$

$$\text{Gross} = 42.11\% \times (\text{GC/BP}) \times \text{Gross O\&M} \times \text{Gross A\&G} \times \text{Gross DE} \times \text{Gross Tax} \times \text{Gross CAP}$$

The cable attachment formula for poles over thirty feet would be as follows:

$$\text{Net} = 17.98\% \times (\text{NC/BP}) \times \text{Net O\&M} \times \text{Net A\&G} \times \text{Net DE} \times \text{Net Tax} \times \text{Net CAP}$$

$$\text{Gross} = 17.98\% \times (\text{GC/BP}) \times \text{Gross O\&M} \times \text{Gross A\&G} \times \text{Gross DE} \times \text{Gross Tax} \times \text{Gross CAP}$$

The telecommunications attachment formula for poles over thirty feet would be as follows:

Net = 31.46% x (NC/BP) x Net O&M x Net A&G x Net DE x Net Tax x Net CAP

Gross = 31.46% x (GC/BP) x Gross O&M x Gross A&G x Gross DE x Gross Tax x Gross CAP

B. Other General Matters

1. Crossarms

The Electric Utilities continue to believe that the downward 15% adjustment for investment in cross-arms and other non-pole related items continues to be a reasonable adjustment.

2. Negative Pole Cost

Treatment of negative cost per bare pole due to cost of removal for pole investment exceeding salvage value for poles or the accumulated depreciation balances exceeding the gross pole investment is not a significant problem for the Electric Utilities, as it is related primarily to the accounting practices of the telephone companies. The Electric Utilities do believe that they should be permitted to directly charge for certain incidental expenses, including but not limited to pole attachment audit, permitting and other directly provided services.

Another directly chargeable service that the Electric Utilities propose imposing is the costs of pole removal. Many times when a pole must be replaced, either because a taller pole is needed, storms have snapped off a pole, the pole needs to be replaced due to age or for a variety of other reasons, the Electric Utility must notify the attachers in advance of the pole replacement. Each attacher is then responsible for moving their attachments. In many instances, however, the attachers will fail to show up at the proper site during pole replacement. This causes the electric utility to have to install the new pole, and leave the old

pole until all of the attachers have moved. The Electric Utilities have included, at Exhibit 5 hereto, photographic examples of "topped" poles being left for the attachers to move their attachments at their leisure.

In such cases, the Electric Utilities are required to go to the location at some future time and remove the old pole. As a result, the Electric Utilities incur an additional expense directly attributable to certain identified attachers, which expense should not be shared by the attachers who move tier attachments in a timely manner, the electric utility or the electric utility rate payers. The Electric Utilities, at their option and if they track these costs separately, should be permitted to directly charge these costs to the specific attachers who are the cost causers.

### 3. Miscellaneous Charges

Some miscellaneous charges which are not part of the pole attachment rate, but which do occur in pole attachment contracts, do bear mention. Attachers commonly purchase power from the electric utility for use in amplifiers and repeaters. The electric utility should be permitted to charge any rate set by the appropriate state or federal authority for this purchase of power, and such purchase is clearly outside of the pole attachment formula contemplated by Congress and this docket.

In addition, electric utilities also charge for unauthorized attachments. This charge is higher than the pole attachment rate, and is deliberately set at a higher rate in order to achieve several purposes. First, this higher rate is to help the electric utility to be compensated for pole rentals that were fraudulently stolen from them by the attaching entity. This rate also contains surcharge to operate as a disincentive for parties attaching illegally.



Without such an incentive, attachers would have little incentive to not attach at will, because they would only have to pay for past compensation if caught.

This economic incentive for assuring compliance is critical. It is essential for utilities to know who is on the pole in order to assure compliance with Safety Requirements and to properly determine the amount of space left available on the pole for all attachers. The higher rate for unauthorized attachments may be substantially higher than the normal attachment but should be allowed by the FCC to assure that pole attachments are made only in accordance with a valid agreement between the attaching entity and the electric utility.

#### 4. Commencement of Charges

Electric Utilities also believe that they should be free to begin charging for attachments, at their own option, from the time that a permit for an attachment is issued. From the time that an attacher applies for a permit to the time that the attachments are actually placed on the pole, the attacher is preventing another party from gaining access to the pole. Not only does the period of time from permitting to actual attachment represent time that another party cannot attach to the pole, it represents a lost opportunity cost to the utility. As a result, electric utilities should be permitted to begin charging for attachments from the time of permitting. This would also perform the function of encouraging the attacher to quickly mount their attachments, and would encourage the utility to quickly grant the permits.

#### 5. Application to Drop, Lift, Service and Other Poles

The Electric Utilities have been approached by some parties stating that the pole attachment rate does not apply to certain types of poles. Among the types of pole which are

alleged to not be subject to pole attachment charges are the drop or lift poles which are outside of the mainline and which are used specifically for street lighting, night lighting, and the extension of drop or service lines to individual units.

To suggest that Congress intended for the use of some poles to be "free" is clearly without merit. The Commission should take this opportunity to clearly state that the utilities are entitled to charge for the attachment to all of its poles, and that no measure of the Act or the Commission's rules permit an attacher to have "free" attachments. The utility incurs the same type of acquisition and maintenance costs for these poles as for "mainline" poles.

## VI. CONDUIT ATTACHMENTS

Issues related to access to electrical conduit and ducts are among the most important issues under consideration in this proceeding. At the outset, Electric Utilities emphasize that under no circumstances can conduit and ducts used for electric supply be compared with, or treated the same as, such facilities owned and operated by communications providers for the provision of communications service. As will be described in more detail below, electric conduits and ducts in urban areas, with their appurtenant facilities such as manholes and vaults, present significant safety risks and concerns which are totally unlike those associated with communications conduit and ducts. In addition, it must be noted at the outset that there are vast differences between underground conduit and ducts in urban areas, normally heavily populated downtown areas in larger cities, and more typical underground installations of electric cable in suburban areas. Generally it is only the urban conduit facilities which are of

interest to communications service providers, since there are more cost effective options available in suburban areas.

A. Characteristics of Electric Utility Conduits

By way of definition, we use the term "duct" to refer to a single pipe or underground passageway through which electrical conductor or communications lines may be run. We use the word "conduit" to refer to a cluster of ducts buried together.<sup>58</sup> In downtown urban areas, where true conduits are generally found, they are buried a minimum of 36 inches in the ground and the individual ducts are encased in concrete for support and for heat dissipation.<sup>59</sup> Manholes connect discrete sections of conduit and provide access to the ducts.<sup>60</sup> In suburban areas, electric conductor may simply be buried in an earthen trench, or in other cases one or two pipes may be buried through which the electric conductor is fed to transformers and the ultimate customer. These more suburban facilities are generally not of great value to telecommunications providers.

The difference in the cost of installation of what we refer to as "urban" conduit is materially and substantially different from the cost of installing what we call "suburban" conduit – yet most accounting systems co-mingle the costs of the two types of underground installation, as discussed more fully below.

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58. Attached at Exhibit 6 hereto are construction photographs of typical ducts and conduits.

59. Attached at Exhibit 7 hereto are photographs depicting the encasement of ducts in concrete.

60. Attached at Exhibit 8 hereto is a construction photograph of ducts going to a manhole.

Urban electrical conduit carries very high voltage electrical circuits. The electrical current creates heat which must be dissipated. In the event of a short or electrical fault, the electric current can cause violent explosions and devastating fires and temperatures in excess of 1200 degrees Fahrenheit. Because of the extreme caution required to work in urban electric underground facilities, only specially trained personnel are permitted to enter a manhole or work on electrical equipment in these confined spaces. There are specific NESC rules which apply to electric conduit systems, NESC Part 3, § 30 et seq., as well as specific OSHA rules. Examples of mishaps with horrendous consequences abound, including manhole covers shooting several feet into the air and fatal and disfiguring burns to electrical workers within manholes.

Because of their initial cost, coupled with the limited access to downtown space, there is little unused capacity in most urban conduit systems. Ducts which do not currently have electrical conductor installed are being held in reserve as spares in order to assure reliability of service in urban corridors. In the event a circuit fails, it can fuse to the duct and in that event is abandoned in place. To promptly restore service to office and other urban buildings, spare ducts are utilized immediately by running new wire to replace the failed conductor. In older, smaller duct systems, it can take three spare ducts to have reserves for one circuit because only one conductor will fit in a duct and there are three conductors to a circuit. Spare ducts are also used for cooling in order to maintain conductor ampacity.

Subject to a very narrow exception, the NESC prohibits, and utilities as a matter of practice prohibit, combining electric conductor and communications lines in a single duct.<sup>61</sup> In addition, no metallic cables other than power cables are allowed in a manhole or duct system. Due to these use, safety and NESC restrictions which differ significantly from communications carriers' conduit, the collocation of communications and electrical cables in a duct is not an option. As a result, while the half-duct methodology may make sense for access to communication ducts, it has not applicability to Electric Utilities.<sup>62</sup> Electric Utilities must be permitted to change on a whole duct basis, for that is the only applicable and relevant basis.

#### 1. Industry Practice

Before entering an urban electrical manhole utilities re-route as much load as possible and de-energize circuits to the extent possible, although network circuits which carry transmission voltage must always be energized and work performed while energized. None

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61. See NESC Rule 320B2. State regulations may also prohibit such co-occupation. For example, in California, the construction of underground electric supply and communication systems are governed by General Order (G.O.) 128, and G.O. 128, rule 44.1.A states that "Communications cables and conductors for public use shall not occupy the same conduit with supply cables or conductors." In addition, G.O. 128, rule 22.1.B sets forth the general rule that "Communications cables and conductors for public use shall not occupy the same manhole or other underground splicing chamber with supply cables or conductors, unless separated from the supply cables or conductors by a partition constructed of brick, concrete, tile or other suitable material[.]" although some exceptions may apply. The Electric Utilities also note that regulations such as the California rules set forth above effectively bar the application of half-duct methodology to electric conduits. See *infra*.

62. The half-duct methodology originated in Massachusetts Department of Public Utilities Docket No. DPU 91-218 by Order dated April 17, 1992. By reviewing the language at page 39, it is obvious that the method was only applied to the sharing of LAC duct by a cable company, which is not prohibited by any safety code. This order has no application to the Electric Utilities.

of the Electric Utilities allows telecommunications providers' employees to enter electric manholes, and telecommunications personnel generally do not wish to do this. Where voluntary agreements exist for the use of ducts in electric conduits, the electric utility directly or through its trained contractors handles installation and maintenance of telecommunications lines. Electric utilities believe that they have the clear right, and obligation, under § 224(f)(2) to exclude third parties from access to urban conduit systems for reasons of safety, reliability and long standing generally applicable engineering considerations. At the same time, in appropriate circumstances, and where capacity is available without jeopardizing the utilities' ability to restore service or to recapture duct space in the future, utilities have negotiated workable access agreements at arms length with telecommunications providers.

**B. Accurate Capture of Conduit Costs Is Problematic**

Due to their typical age and the lack of uniform accounting records it is very difficult to develop accurate historic costs for electric utility conduit. Based upon a survey of the Electric Utilities, various accounting practices have been noted and different FERC accounts are used for the same or similar cost items. It is also virtually impossible to separate the cost of urban and suburban conduit and duct systems, even though they have vastly different cost structures and patterns. For example, urban systems cost approximately \$400 per foot. By contrast, agricultural systems can be installed for between five and ten dollars per foot and suburban systems generally can be installed for between twenty and forty dollars per foot. Similarly, it is infeasible to even determine on a consistent basis how many miles of which types of conduits and ducts are found in most electric utility systems.

The Electric Utilities have discovered that most, if not all, of the demand for conduit is in urban areas, and not suburban areas. As the costs for these conduits are substantially different, it would be unfair and constitute a taking of property without just compensation to price urban conduit at suburban rates, or even at a rate substantially diluted by the price of suburban conduit. Unfortunately, the accounting records of the Electric Utilities do not separate conduit on the basis of whether the cost was associated with urban or suburban areas. Where records are available, they are generally engineering records which show the total amount of installed conduit based on suburban linear feet versus urban linear feet.

These real world accounting problems are compounded by the fact that most urban electric utility conduit and ducts are installed in larger cities in downtown areas. They are generally very old and have been depreciated to the point that use of a net book value for establishing rent would in no way compensate electric utilities for the economic value of their conduits and ducts or provide just and reasonable compensation compared to the burdens and risks imposed. The Electric Utilities also submit that, due to their construction and location, urban conduits and ducts do not actually depreciate. Most of the cost for construction lies in the digging of the trench, shoring backfill, cutting rock and asphalt, and forming concrete around the ducts. Depreciation in this context is predominantly an accounting artifact.

Since for most utilities it is virtually impossible to identify a single set of FERC accounts which will allow an electric utility to isolate the original cost of urban conduit, we submit that conduit rental prices, when access is allowed, should be benchmarked at the replacement cost of an urban conduit and duct. This is the only practical solution, and it is consistent with the move to market based rates. Through negotiation prices actually charged

may, and no doubt will, frequently be set below this benchmark. The replacement cost is ascertainable, can be applied on a unit basis (per foot or mile) and sends a proper price signal relative to the true value of the asset being utilized, consistent with the policy goals of the 1996 Act to foster market-based competition.

Electric utilities and communications companies are installing new conduit on a continuing basis due to the growth of service requests in various markets and the increasing requirements by local governments for the burying of lines for safety and aesthetic purposes. Replacement cost is, therefore, reasonably easy to determine, and administratively easy to police. Accordingly, the Electric Utilities propose that an average of current invoices for the construction of conduit in the area where the attaching entity is requesting an attachment, or if more appropriate an engineering study, be the basis for the capital account charge for a conduit attachment. The Electric Utilities have discovered that over the past year, the cost of installing conduit has been between \$350.00 and \$400.00 per foot, on average. Due to the fact that such conduit does not "depreciate" in the normal sense of the word, but is more like land use rights, a current market cost of conduit installation would continue to be used as the capital component of future conduit calculations.

In any event, use of net embedded cost of utility underground systems would be totally inappropriate. First, as noted, no single FERC account could be used for all utilities. Second, due to the significant differences in cost of various underground systems and the lack of appropriate historic subaccounts, the cost of urban conduits is unknown to most utilities. And third, there is generally no accurate data available on how many units of each type of underground facilities are available. Consider, for example, that a single account can



include electric conduits which have merely been buried and do not even use a duct, single duct underground installations, single duct with spare duct installations, and 75-year-old urban conduit systems with manholes, vaults and other appurtenances.

### C. Calculation of Expenses

As the electric utility must for safety and reliability retain control over access to its conduit and duct systems, many of the costs incurred in installing and maintaining cable or telecommunications facilities in electric utility conduits can be directly charged. For purposes of establishing a formula, however, the Commission must establish a principle for calculating A&G, O&M, taxes and a return on investment to apply to the replacement cost capital component.

#### 1. Operations and Maintenance Accounts

##### a. FERC Account 580 (Operation Supervision & Engineering)

##### (1) Description and Justification

This account contains expenditures for supervision and engineering incurred in support of most general operational activities, including conduit operations and installation.

This account would include supervision, inspection and testing related to the following:

- Special tests to determine the efficiency of equipment operation.
- Preparing and reviewing budgets, estimates and drawings relating to the operation or maintenance for department approval.
- Preparing instructions for operations and maintenance activities.
- Reviewing and analyzing operating results.
- Establishing organizational setup of departments and executing changes therein.
- Formulating and reviewing routines of departments and executing changes therein.
- General training and instruction of employees by supervisors whose pay is chargeable hereto. Specific instruction and training in a particular type of work is chargeable to the appropriate functional account.